

### REMARKS

This Amendment is in response to the Non-final Office Action mailed on June 21, 2006. Claims 1-20 are pending. Claims 1, 5, 10, and 12 have been amended herein. It is submitted that no new matter has been added. Entry and consideration of the amendments and following remarks is respectfully requested

Claim 5 was amended to overcome the Examiner's objection. Claim 10 was amended to correct the lack of antecedent basis. It is respectfully submitted that the objection to claim 5 and the rejection of claim 10 have been overcome and should be withdrawn.

Claims 1, 2, 4, 5, 12, 13, 15, 17, and 18 stand rejected under 35 U.S.C. § 102 (b) as anticipated by FI 100168. This rejection is respectfully traversed.

According to the Examiner, FI 100168 discloses a method of continuous dilution and mixing of a fibrous suspension. Examiner cites Figures 8 and 9 of FI 100168 to teach the waved-shaped form in the cross-section of the pipe. However, it is Applicant's contention that this is a misinterpretation of Figures 8 and 9 of FI 100168. Figures 8 and 9 do not show a wave shaped form in the cross section. Rather, the figures show ribs 26a mounted in a *radial* direction. The dilution water flows through the ribs to be mixed with the stock. The radial ribs 26a, consequently, do not teach or suggest that the cross-section of the pipe is wave-shaped, as in the claimed invention.

The vortices in FI 100168 are formed by vortex producing part (e.g. a screen plate, a throttling piece, a discontinuous *increase* in cross-section) coupled with the introduction of the fiber suspension into the flow of the dilution water at a velocity and direction that differ from that of the flow of the dilution water. This method results in too much pressure loss in the mixer which consumes a greater amount of energy. Additionally, the mixing result may not be good, or at is not consistent because both flows have not been brought into a turbulent state.

In contradistinction, the claimed invention uses the wave-shaped circumference of the pipe to form vortices causing the flows on both the inside and outside of the pipe to have velocity vectors that cross when the inner and outer flows join. Consequently, mixing turbulence is

formed by the crossing vectors of the flows in the mixing area. This results in very minimal pressure loss and a well mixed product. Both flows are subject to mixing turbulence in the mixing area. Accordingly, it is respectfully submitted that FI 100168 does not anticipate the claimed invention.

Claims 11 and 14 stand rejected under 35 U.S.C. § 103(a) as obvious over FI 100168 in view of Kaiser (3,812,007). As discussed above regarding the independent claims from which claims 11 and 14 depend, the primary reference, FI 100168, fails to teach or suggest the claimed invention. Kaiser, the secondary reference, is cited by the Examiner only to exemplify the use of a deaeration tank in a short circulation loop of a paper machine for the purposes of providing deaerated stock to the headbox and to assist in flow regulation of stock. Kaiser does not teach the claimed invention, nor is this even suggested by the Examiner. Accordingly, neither reference, either alone or in combination, teach the invention as claimed in claims 1-20. Accordingly, the Examiner is respectfully requested to withdraw the rejections and place the application into condition for allowance.

**CONCLUSION**

In view of the amendments to claims 1, 5, 10, and 12 made herein and the arguments presented above, it is submitted that the Examiner's rejections have been overcome and should be withdrawn. The application should now be in condition for allowance.

Should any changes to the claims and/or specification be deemed necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

This Response is being timely filed. In the event that any other extensions and/or fees are required for the entry of this Amendment, the Patent and Trademark Office is specifically authorized to charge such fee to Deposit Account No. 23-2820 in the name of Wolf, Block, Schorr & Solis-Cohen LLP. An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,  
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